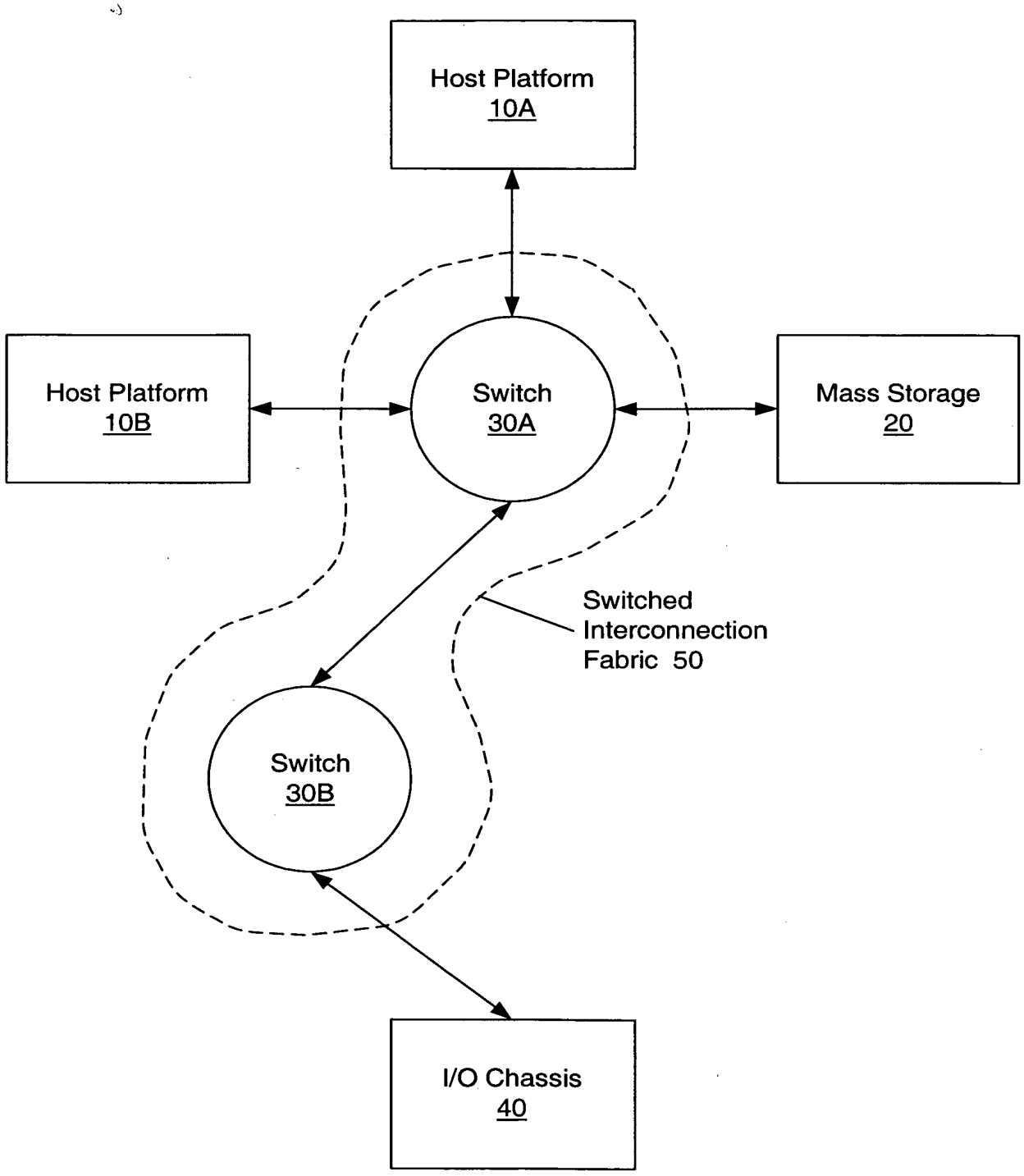
Host Platform
10A
Host Platform
10B
Switch
30A
Mass Storage
20
Switched
Interconnection
Fabric 50
Switch
30B
I/O Chassis
40

FIG. 1

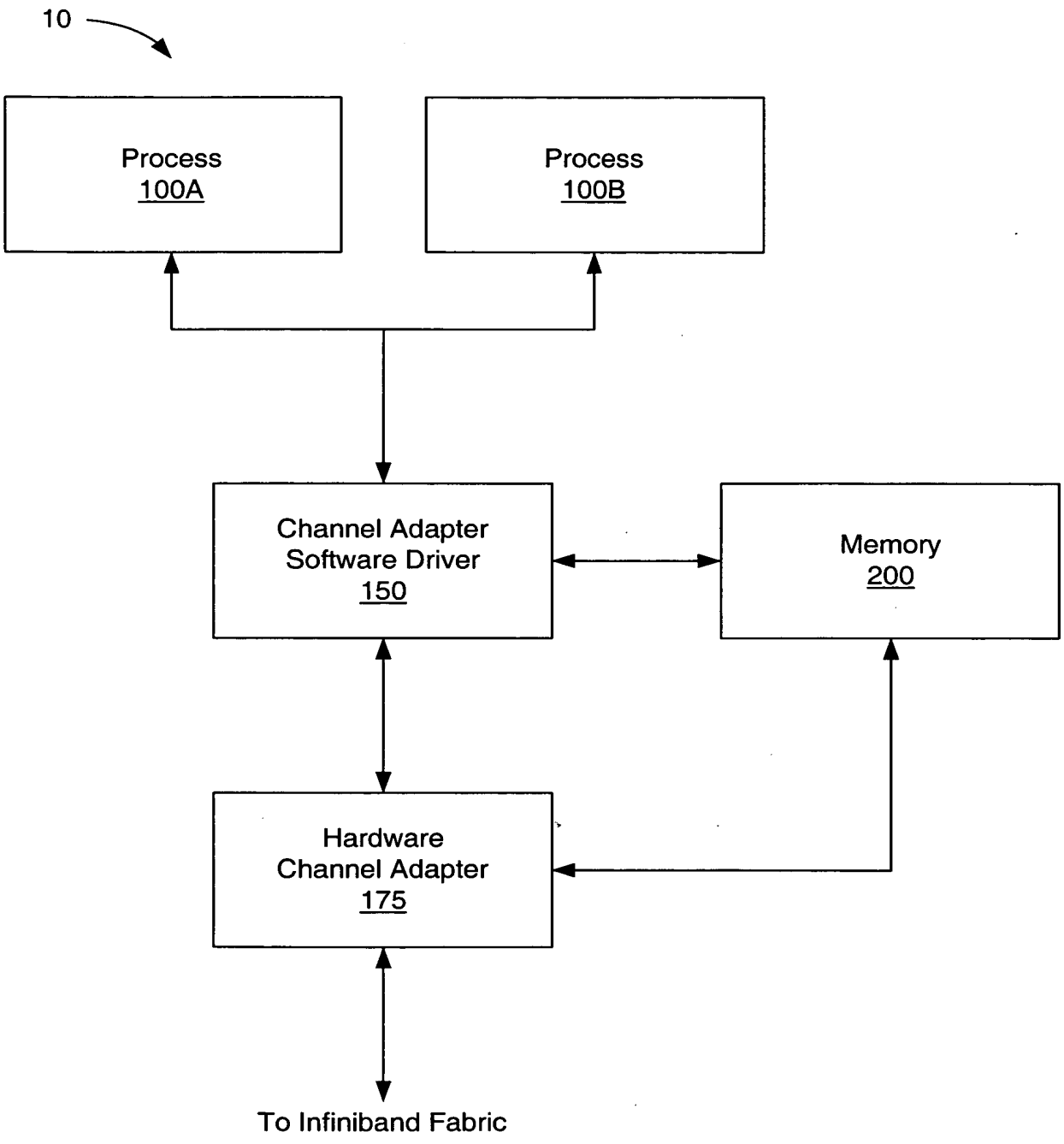
10
Process
100A
Process
100B
Channel Adapter
Software Driver
150
Memory
200
Hardware
Channel Adapter
175
To Infiniband Fabric

FIG. 2

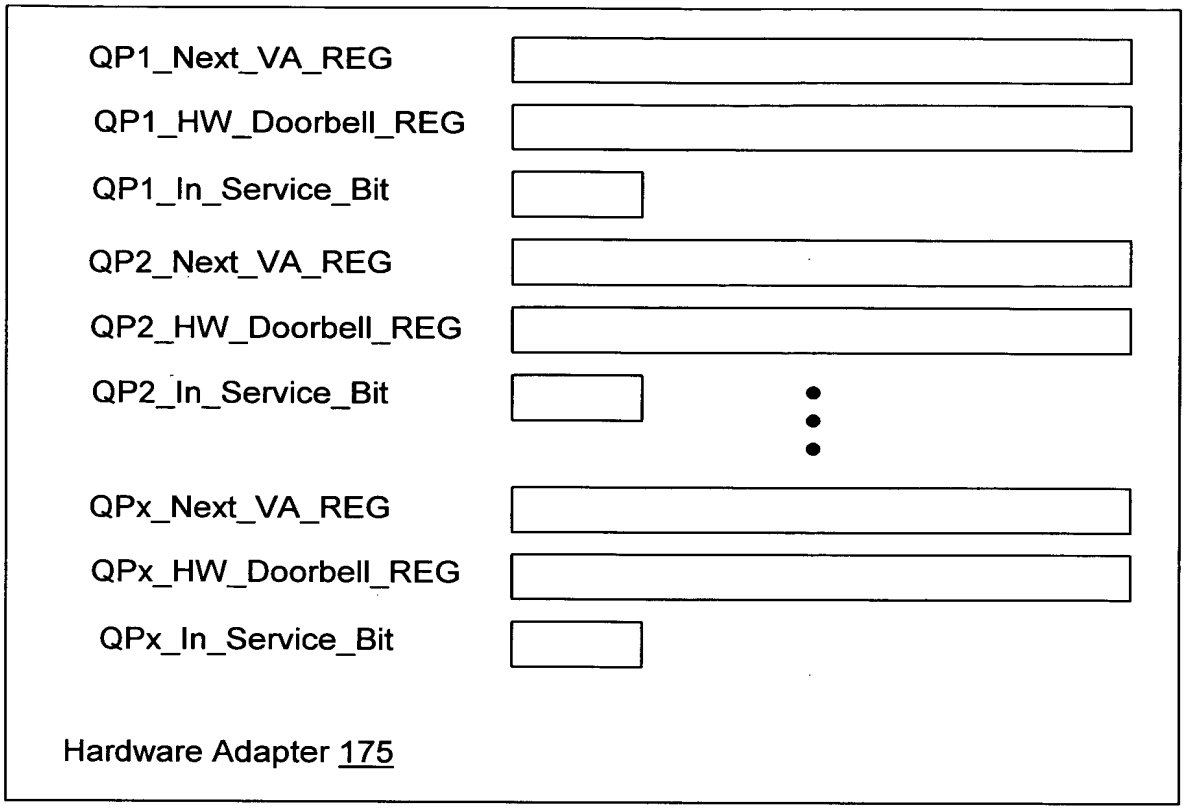

FIG. 3A

Virtual Address	Work Queue Element Information	Next Virtual Address	Next WQE Posted	Busy
WQE_VA0		0	0	0
WQE_VA1		0	0	0
WQE_VA2		0	0	0
WQE_VA3		0	0	0

QPx Driver Last WQE Accessed Register 215

QPx 210

FIG. 3B

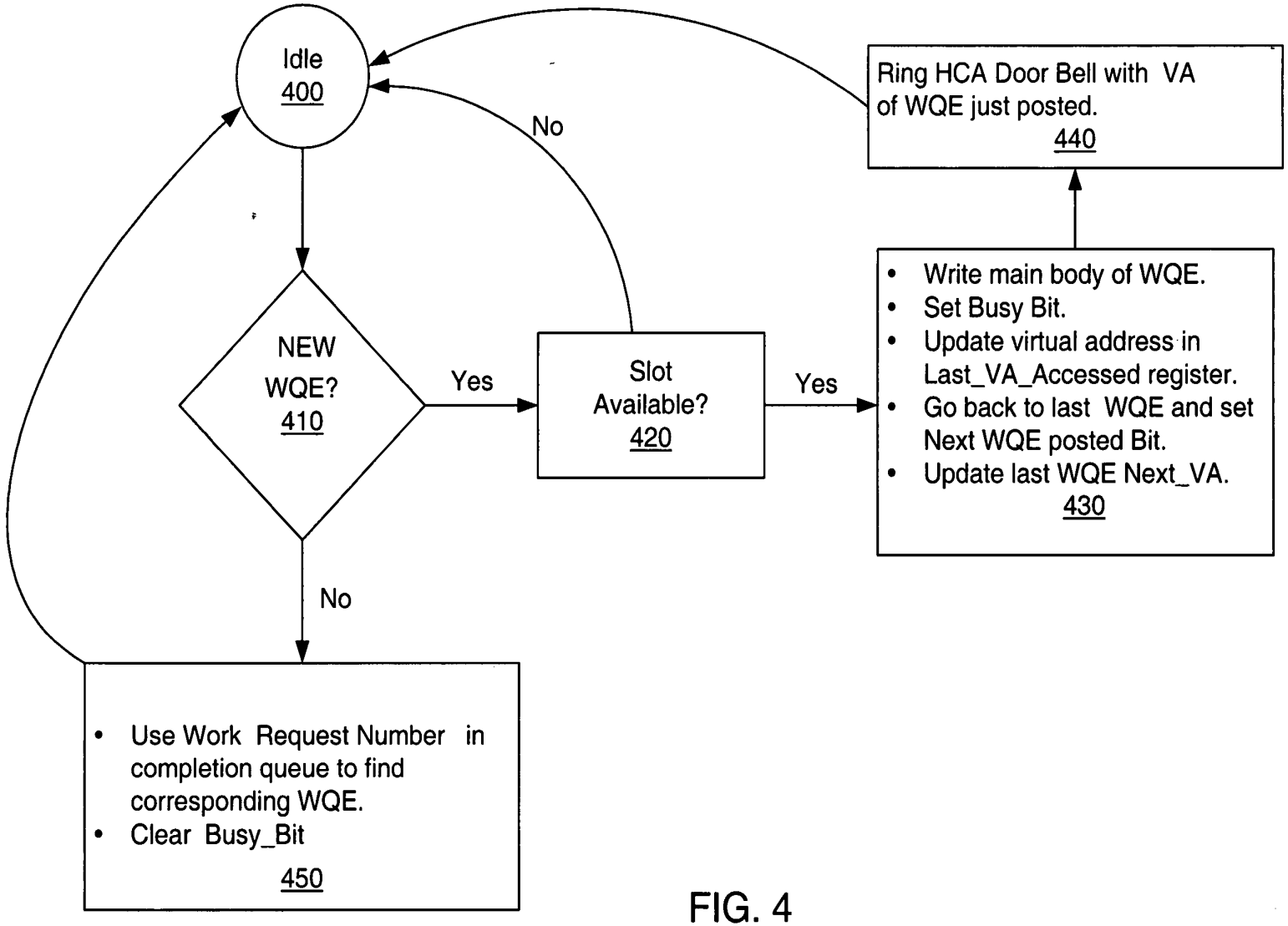
Idle
400
NEW
WQE?
410
Yes
Slot
Available?
420
Yes
No
No
Ring HCA Door Bell with VA
of WQE just posted.
440
• Write main body of WQE.
• Set Busy Bit.
• Update virtual address in
Last_VA_Accessed register.
• Go back to last WQE and set
Next WQE posted Bit.
• Update last WQE Next_VA.
430
• Use Work Request Number in
completion queue to find
corresponding WQE.
• Clear Busy_Bit
450

FIG. 4

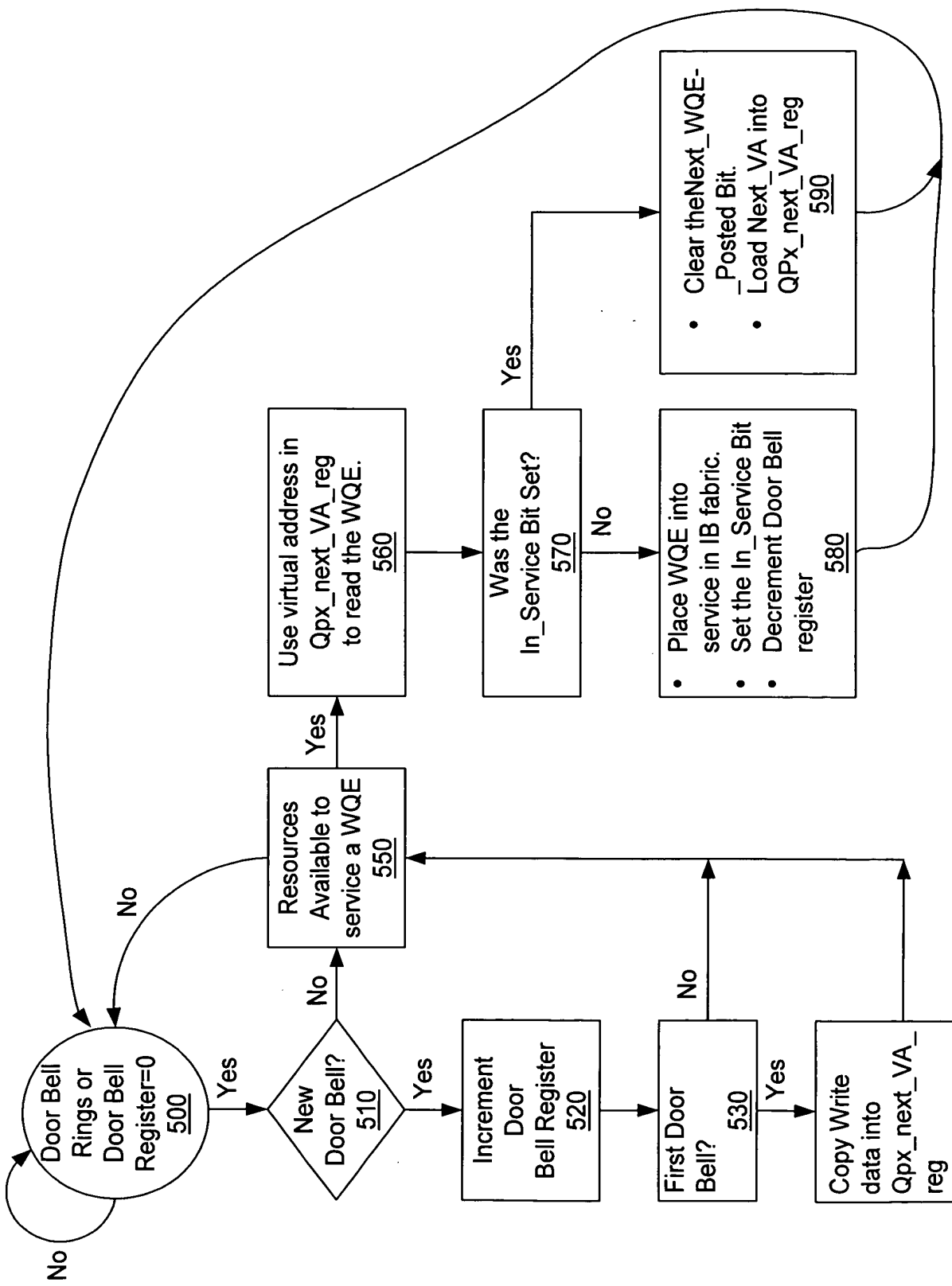
Door Bell Rings or Door Bell Register=0 500
No
Yes
New Door Bell? 510
No
Yes
Increment Door Bell Register 520
First Door Bell? 530
No
Yes
Copy Write data into Qpx_next_VA_reg 540
Resources Available to service a WQE 550
No
Yes
Use virtual address in Qpx_next_VA_reg to read the WQE. 560
Was the In_Service Bit Set? 570
No
Yes
• Place WQE into service in IB fabric.
• Set the In_Service Bit
• Decrement Door Bell register 580
• Clear theNext_WQE-_Posted Bit.
• Load Next_VA into QPx_next_VA_reg 590

FIG. 5